Application No. 09/529,654
Response to Office action dated 09/22/2004

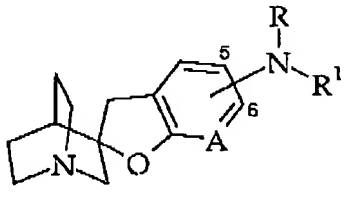
Amendment to the Claims:

This listing of claims will replace all previous versions, and listings, of claims in this application.

Listing of Claims:

Claims 1 - 43 (cancelled).

Claim 44 (currently amended) A compound of formula I,



I

wherein

NRR^1 is attached at the 5- or 6-position of the furopyridine ring;

R is hydrogen, C_1-C_4 alkyl, or COR^2;

R^1 is $(CH_2)_nAr$, $CH_2CH=CHAr$, or $CH_2C\equiv CAr$;

n is 0 to 3;

A is N;

Ar is a 5- or 6-membered aromatic or heteroaromatic ring which contains zero to four nitrogen atoms, zero to one oxygen atoms, and zero to one sulfur atoms; or:

Ar is an 8-, 9- or 10-membered fused aromatic or heteroaromatic ring system containing zero to four nitrogen atoms, zero to one oxygen atoms, and zero to one sulfur atoms ; any of which may optionally be substituted with one to two substitutents independently selected from: halogen, trifluoromethyl, or C_1-C_4alkyl;

R^2 is hydrogen, C_1-C_4alkyl; C_1-C_4alkoxy; or a phenyl ring optionally substituted with one to three of the following substituents: halogen, C_1-C_4alkyl, C_2-C_4alkenyl, C_2-C_4alkynyl, OH, OC_1-C_4alkyl, -CO_2RS, -CN, -NO_2, -NR^3R^4, or -CF_3;

R^3, R^4 and R^5 are independently hydrogen; C_1-C_4alkyl; or a phenyl ring optionally substituted with one to three of the following substituent : halogen, C_1-C_4alkyl, C_2-C_4alkenyl, C_2-C_4alkynyl, -OH, -OC_1-C_4alkyl, -CN, -NO_2, or -CF_3;
or an enantiomer thereof, or a pharmaceutically acceptable salt thereof, with the proviso that said compound is not 5' -N-benzylaminospiro[1-azabicyclo[2 .2.2]octane-3,2'-(3'H)-furo[2,3-b]pyridine].

Claim 45 (cancelled)

Claim 46 (cancelled)

Claim 47 (cancelled)

Claim 48 (previously presented) A compound according to claim 44, wherein Ar is selected from
1-, or 2-naphthyl,
2-, 3-, 4-, 5-, 6-, 7-, or 8-quinolyl,
1-, 3-, 4-, 5-, 6-, 7-, or 8-isoquinolyl,
2-, 4-, 5-, 6-, or 7-benzoxazolyl, or
3-, 4-, 5-, 6-, or 7-benzisoxazolyl,
or an enantiomer thereof, or a pharmaceutically acceptable salt thereof

Claim 49 (cancelled)

Claim 50 (previously presented) A compound according to claim 44, wherein Ar is an heteroaromatic ring.

Claim 51 (cancelled)

Claim 52 (cancelled)

Claim 53 (cancelled)

Claim 54. (previously presented) A compound according to claim 44, said compound being:

R-(-)-5'-(3-pyridylmethyl)aminospiro[1-azabicyclo[2.2.2]octane-3,2'-(3'H)-furo[2,3-b]pyridine], or

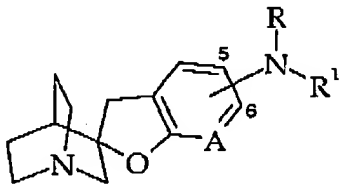
R-(-)-5'-(4-pyridylmethyl)aminospiro[1-azabicyclo[2.2.2]octane-3,2'-(3'H)-furo[2,3-b]pyridine];

or an enantiomer thereof, or a pharmaceutically acceptable salt thereof.

Claim 55 (cancelled)

Claim 56 (cancelled)

Claim 57 (currently amended) A compound of formula I,



I

wherein

NRR^1 is attached at the 5- or 6-position of the furopyridine ring;

R is hydrogen, C_1-C_4 alkyl, or COR^2;

R^1 is $(CH_2)_nAr$, $CH_2CH=CHAr$, or $CH_2C\equiv CAr$;

n is 0 to 3;

A is N;

Ar is a 5- or 6-membered aromatic or heteroaromatic ring which contains zero to four nitrogen atoms, zero to one oxygen atoms, and zero to one sulfur atoms which heteroaromatic ring is optionally substituted with one to two substitutents independently selected from: halogen, trifluoromethyl, or C_1-C_4alkyl;

R^2 is hydrogen, C_1-C_4alkyl; C_1-C_4alkoxy; or a phenyl ring optionally substituted with one to three of the following substituents: halogen, C_1-C_4alkyl, C_2-C_4alkenyl, C_2-C_4alkynyl, OH, OC_1-C_4alkyl, $-CO_2RS$, -CN, $-NO_2$, $-NR^3R^4$, or $-CF_3$;

R^3, R^4 and R^5 are independently hydrogen; C_1-C_4alkyl; or a phenyl ring optionally substituted with one to three of the following substituent : halogen, C_1-C_4alkyl, C_2-C_4alkenyl, C_2-C_4alkynyl, -OH, $-OC_1$-C_4alkyl, -CN, $-NO_2$, or $-CF_3$;

or an enantiomer thereof, or a pharmaceutically acceptable salt thereof.

Claim 58 (previously presented) A compound according to claim 57, wherein R^1 is $-CH_2CH=CHAr$.

Claim 59 (previously presented) A compound according to claim 57, wherein R^1 is $-CH_2CH=CHAr$.

Claim 60 (previously presented) A compound according to claim 57, wherein R^1 is $-(CH_2)_nAr$.

Claim 61 (previously presented) A compound according to claim 57, said compound being:

R-(-)-5'-(2-pyridylmethyl)aminospiro[1-azabicyclo[2.2.2]octane-3,2'-(3'H)-furo[2,3-b]pyridine];

R-(-)-5'-(3-pyridylmethyl)aminospiro[1-azabicyclo[2.2.2]octane-3,2'-(3'H)-furo[2,3-b]pyridine][[, or]];

R-(-)-5'-(4-pyridylmethyl)aminospiro[1-azabicyclo[2.2.2]octane-3,2'-(3'H)-furo[2,3-b]pyridine];

R-(-)-5'-(2-furanylmethyl)aminospiro[1-azabicyclo[2.2.2]octane-3,2'-(3'H)-furo[2,3-b]pyridine];

R-(-)-5'-(3-furanylmethyl)aminospiro[1-azabicyclo[2.2.2]octane-3,2'-(3'H)-furo[2,3-b]pyridine];

R-(-)-5'-(2-thienylmethyl)aminospiro[1-azabicyclo[2.2.2]octane-3,2'-(3'H)-furo[2,3-b]pyridine];

R-(-)-5'-(2-imidazolylmethyl)aminospiro[1-azabicyclo[2.2.2]octane-3,2'-(3'H)-furo[2,3-b]pyridine];

R-(-)-5'-N-(3-pyridyl)aminospiro[1-azabicyclo[2.2.2]octane-3,2'(3'H)-furo[2,3-b]pyridine];

R-(-)-5'-N-(3-thienylmethyl)aminospiro[1-azabicyclo[2.2.2]octane-3,2'-(3'H)-furo[2,3-b]pyridine];

R-(-)-5'-N-(imidazol-4-ylmethyl)aminospiro[1-azabicyclo[2.2.2]octane-3,2'-(3'H)-furo[2,3-b]pyridine];

R-(-)-5'-N-(thiazol-2-ylmethyl)aminospiro[1-azabicyclo[2.2.2]octane-3,2'-(3'H)-furo[2,3-b]pyridine];

R-(-)-5'-N-[trans-3-(4-pyridinyl)prop-2-enyl]aminospiro[1-azabicyclo[2.2.2]octane-3,2'-(3'H)-furo[2,3-b]pyridine];

R-(-)-5'-N-acetyl-N-(3-thienylmethyl)aminospiro[1-azabicyclo[2.2.2]octane-3,2'-(3'H)-furo[2,3-b]pyridine];

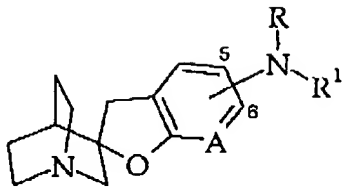
R-(-)-5'-N-methyl-N-(4-pyridylmethyl)aminospiro[1-azabicyclo[2.2.2]octane-3,2'-(3'H)-furo[2,3-b]pyridine], or

R-(-)-5'-N-methyl-N-(3-pyridylmethyl)aminospiro[1-azabicyclo[2.2.2]octane-3,2'-(3'H)-furo[2,3-b]pyridine];

or an enantiomer thereof, or a pharmaceutically-acceptable salt thereof.

Claim 62 (previously presented) A pharmaceutical composition comprising a compound according to claim 57, in admixture with an inert pharmaceutically-acceptable diluent or carrier.

Claim 63 (previously presented) A compound of formula I,



I

wherein

NRR^1 is attached at the 5- or 6-position of the furopyridine ring;

R is hydrogen, C_1-C_4alkyl, or COR^2;

R^1 is $(CH_2)_0Ar$, $CH_2CH=CHAr$, or $CH_2C\equiv CAr$;

n is 0 to 3;

A is N;

Ar is an 8-, 9- or 10-membered fused aromatic or heteroaromatic ring system containing zero to four nitrogen atoms, zero to one oxygen atoms, and zero to one sulfur atoms ; any of which may optionally be substituted with one to two substitutents independently selected from: halogen, trifluoromethyl, or C_1-C_4alkyl;

R^2 is hydrogen, C_1-C_4alkyl; C_1-C_4alkoxy; or a phenyl ring optionally substituted with one to three of the following substituents: halogen, C_1-C_4alkyl, C_2-C_4alkenyl, C_2-C_4alkynyl, OH, OC_1-C_4alkyl, $-CO_2RS$, -CN, $-NO_2$, $-NR^3R^4$, or $-CF_3$;

R^3, R^4 and R^5 are independently hydrogen; C_1-C_4alkyl; or a phenyl ring optionally substituted with one to three of the following substituent : halogen, C_1-C_4alkyl, C_2-C_4alkenyl, C_2-C_4alkynyl, -OH, $-OC_1$-C_4alkyl, -CN, $-NO_2$, or $-CF_3$;

or an enantiomer thereof, or a pharmaceutically acceptable salt thereof.

Claim 64 (previously presented) A compound according to claim 63, wherein R^1 is $-CH_2CH=CHAr$.

Claim 65 (previously presented) A compound according to claim 63, wherein R^1 is -$CH_2CH{=}CHAr$.

Claim 66 (previously presented) A compound according to claim 63, wherein R^1 is -$(CH_2)_nAr$.

Claim 67 (previously presented) A compound according to claim 63, said compound being:

R-(-)-5'-N-(quinolin-3-ylmethyl)aminospiro[1-azabicyclo[2.2.2]octane-3,2'-(3'H)-furo[2,3-b]pyridine];

R-(-)-5'-N-(quinolin-4-ylmethyl)aminospiro[1-azabicyclo[2.2.2]octane-3,2'-(3'H)-furo[2,3-b]pyridine], or

R-(-)-5'-N-(1,4-benzodioxan-6-ylmethyl)aminospiro[1-azabicyclo[2.2.2]octane-3,2'-(3'H)-furo[2,3-b]pyridine];

or an enantiomer thereof, or a pharmaceutically acceptable salt thereof.

Claim 68 (previously presented) A compound according to claim 63, wherein Ar is selected from 1-, or 2-naphthyl,

2-, 3-, 4-, 5-, 6-, 7-, or 8-quinolyl,

1-, 3-, 4-, 5-, 6-, 7-, or 8-isoquinolyl,

2-, 4-, 5-, 6-, or 7-benzoxazolyl, or

3-, 4-, 5-, 6-, or 7-benzisoxazolyl,

or an enantiomer thereof, or a pharmaceutically acceptable salt thereof.

Claim 69 (previously presented) A pharmaceutical composition comprising a compound according to claim 63, in admixture with an inert pharmaceutically-acceptable diluent or carrier.